

I claim:

- 1 1. A turbine blade with abrasive tip coating, comprising:
2 an elongated turbine blade having a tip at one end, said tip having an abrasive coating
3 including a mixture of cubic boron nitride and silicon nitride.
- 1 2. The turbine blade according to claim 1 wherein the abrasive coating
2 includes a substantially 50:50 mixture of cubic boron nitride and silicon nitride.
- 1 3. The turbine blade according to claim 1 wherein the abrasive coating
2 includes a super alloy of at least one of nickel and cobalt.
- 1 4. The turbine blade according to claim 3 wherein the super alloy is
2 CoNiCrAlY.
- 1 5. The turbine blade according to claim 3 wherein the abrasive coating
2 includes a substantially 50:50 mixture of cubic boron nitride and silicon nitride.
- 1 6. The turbine blade according to claim 1 wherein the cubic boron nitride and
2 the silicon nitride are electroplated to the blade tip.
- 1 7. A turbine blade and ring segment assembly, comprising:
2 a turbine ring segment having an abradable coating on an inner surface thereof;
3 an elongated turbine blade having a tip at one end, said blade tip having an
4 abrasive coating, said abrasive coating engaging and abrading said abradable coating
5 of the turbine ring segment; wherein said abrasive coating of said blade tip includes a
6 mixture of cubic boron nitride and silicon nitride.

1 8. The assembly according to claim 7 wherein the abrasive coating includes
2 a substantially 50:50 mixture of cubic boron nitride and silicon nitride.

1 9. The assembly according to claim 7 wherein the abrasive coating includes
2 a super alloy of at least one of nickel and cobalt.

10. The assembly according to claim 9 wherein the super alloy is CoNiCrAlY.

1 11. The assembly according to claim 9 wherein the abrasive coating includes
2 a substantially 50:50 mixture of cubic boron nitride and silicon nitride.

1 12. The assembly according to claim 7 wherein the cubic boron nitride and the
2 silicon nitride are electroplated to the blade tip.

1 13. The assembly according to claim 7 wherein the abradable material of the
2 ring segment is a thermal barrier coating.

1 14. The assembly according to claim 13 wherein the thermal barrier coating is
2 porous.

1 15. The assembly according to claim 14 wherein the thermal barrier coating is
2 ceramic.

1 16. The assembly according to claim 15 wherein the thermal barrier coating
2 includes yttria-stabilized zirconia (YSZ).

1 17. The assembly according to claim 16 wherein the thermal barrier coating
2 includes 8 wt. % YSZ (8YSZ).